William F. Adler
Executive Director
Federal Regulatory Relations

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE

February 14, 1994

William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

Re: PP Docket No. 93-253, Competitive Bidding

Dear Mr. Caton:

On February 14, 1994, Jim Tuthill of Pacific Bell, Professor Paul Milgrom of Cornerstone Research and Stanford University and the undersigned met with Diane Cornell of Chairman Hundt's Office and Rudy Baca of Commissioner Quello's office regarding issues in the subject proceeding. We distributed the attached written material.

I am filing two copies of this letter and its attachment in accordance with Section 1.1206(a) of the Commission's rules. Please contact me if you have any questions concerning this matter.

Sincerely,

William F. Adler

Attachment

CC: Diane Cornell
Rudy Baca
Evan Kwerel

No. of Copies rec'd 0+1
List ABCDE

PACIFIC BELL®
A Pacific Telesis Company

Personal Communications Services

Bringing Mobility to the Mass Market

February 14, 1994

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FEB 14 1994
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

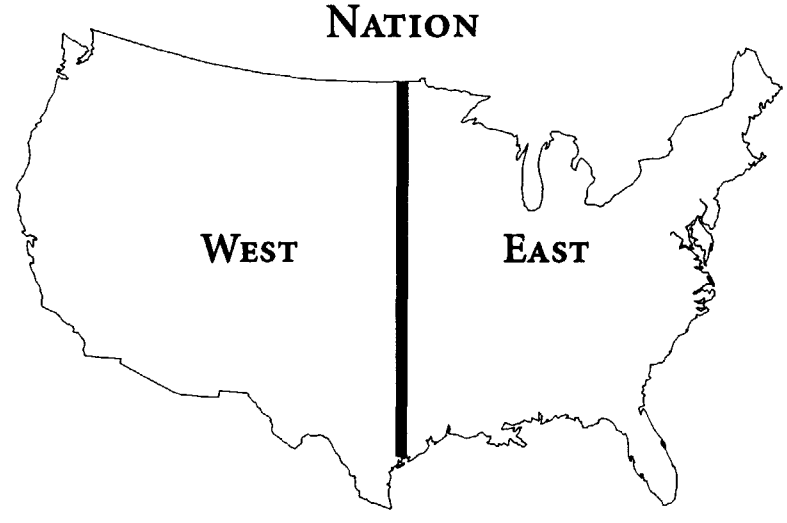
AUCTION RULES SHOULD BE FAIR TO EVERYONE AND PROMOTE THE EFFICIENT ALLOCATION OF LICENSES FOR SPECTRUM.

PACIFIC BELL®
A Pacific Telesis Company

The Milgrom-Wilson simultaneous bidding design is best because it:

- **Provides equal treatment of all bidders of all sizes and in all regions**
- **Allows bidders to base bids on estimated prices of *all* licenses and to execute backup strategies**
- **Avoids the proven biases of sequential-combinatorial bidding**
  - **bias in favor of national combinations**
  - **bias in favor of bidders for first licenses sold**
- **Avoids the proven inefficiencies of sequential auctions**
- **Is practical to implement with existing technology**

FIGURE 1



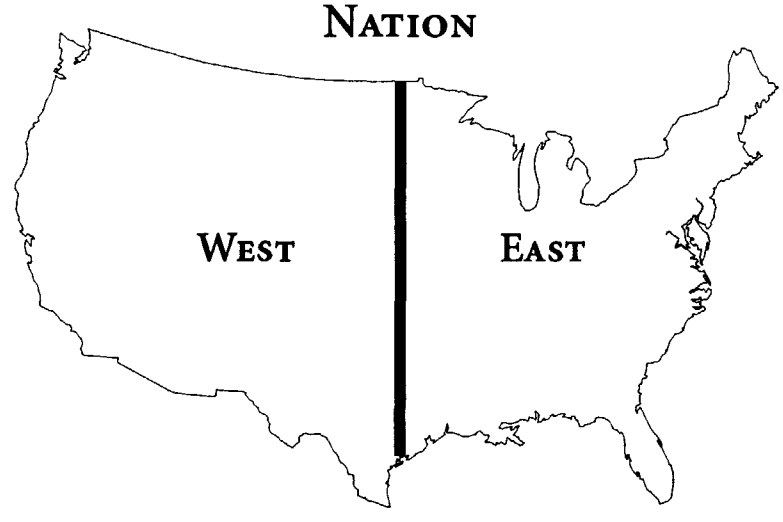
West		East		Nation = West + East	
Regional Bidder	Maximum Willing to Pay	Regional Bidder	Maximum Willing to Pay	National Bidder	Maximum Willing to Pay
W1	20	E1	20	N1	35
W2	10	E2	10	N2	32

LIKELY FINAL BIDS IN AUCTIONS

Oral					Sealed Bid	
	West		East	Sum of Bids		Nation
W1	10.1	E1	10.1	20.2	N1	32.1
W2	Lose	E2	Lose	—	N2	Lose

N1 wins the license for the entire nation since its bid of 32.1 exceeds the sum of W1's and E1's final bids of 20.2, despite the fact that N1 has a lower value for the license (35) than W1 and E1 combined (40).

FIGURE 2



West		East		Nation = West + East	
Regional Bidder	Maximum Willing to Pay	Regional Bidder	Maximum Willing to Pay	National Bidder	Maximum Willing to Pay
W1	20	E1	20	N1	45
W2	10	E2	10	N2	42

LIKELY FINAL BIDS IN AUCTIONS

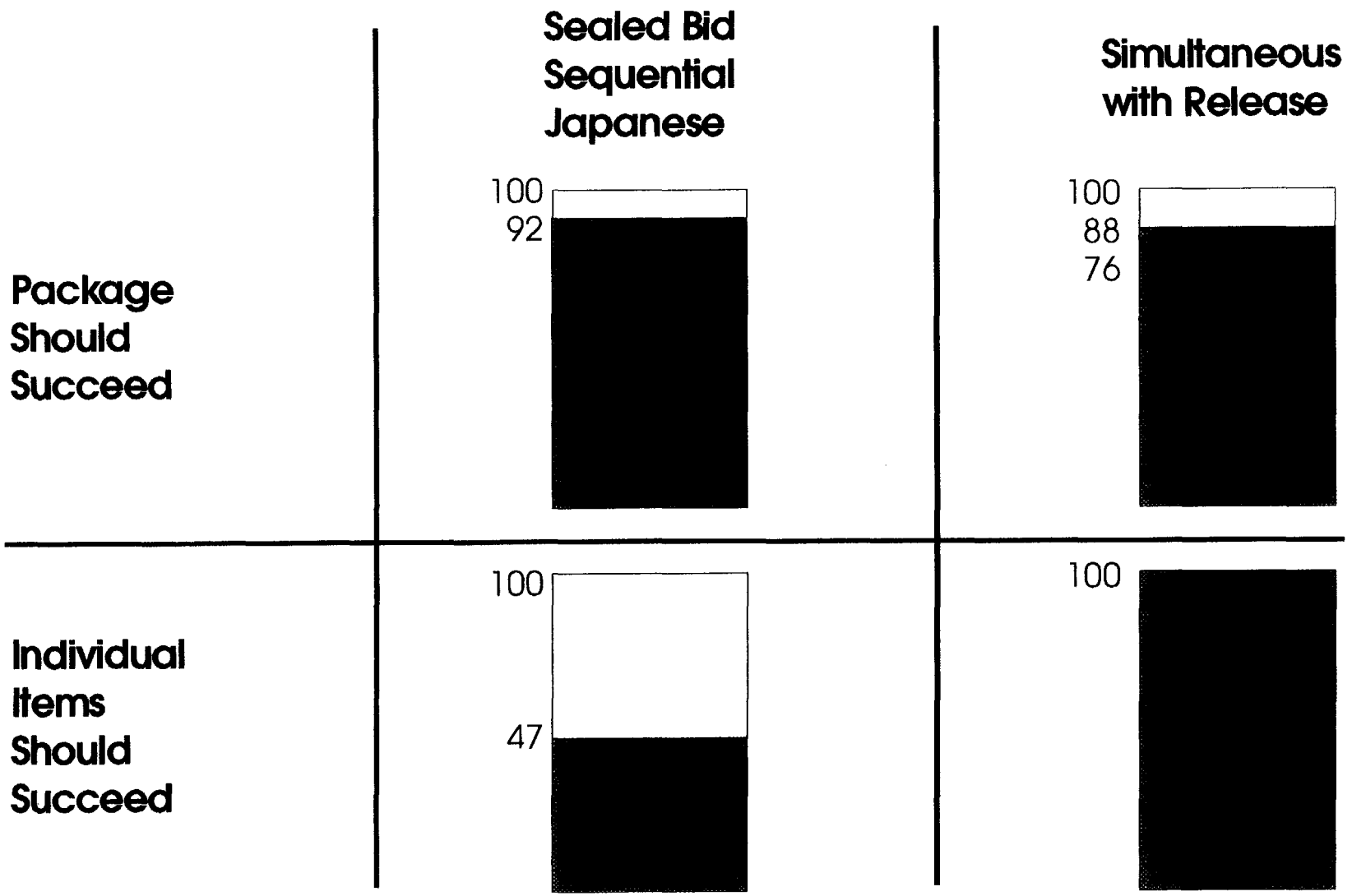
Oral					Sealed Bid	
	West		East	Sum of Bids		Nation
W1	10.1	E1	10.1	20.2	N1	42.1
W2	Lose	E2	Lose	—	N2	Lose

N1 wins the license for the entire nation since its bid of 42.1 exceeds the sum of W1's and E1's final bids of 20.2. Since N1 is the highest-value bidder, in this case, combination bidding produces an efficient outcome.

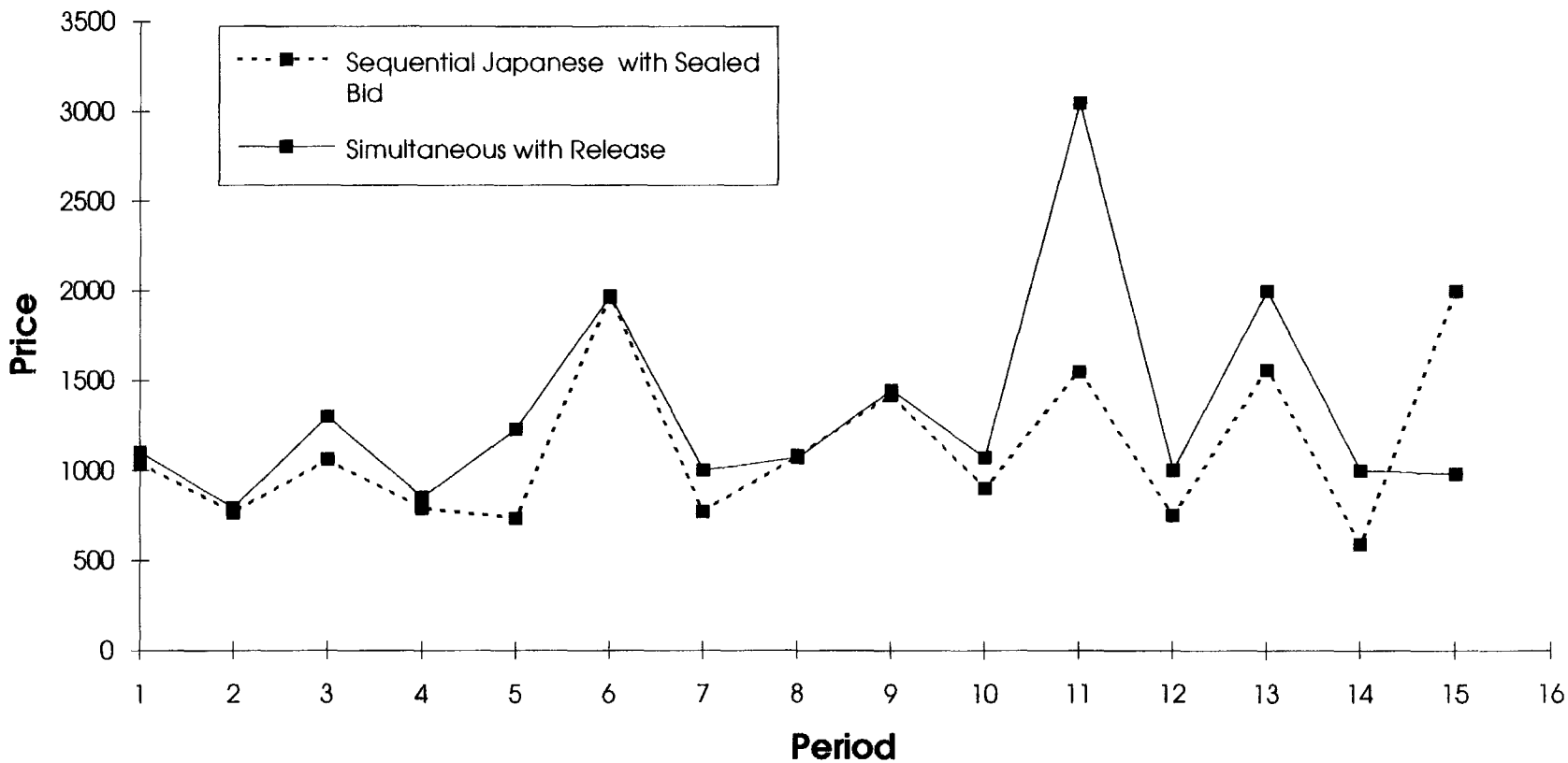
Sealed Bid Gives an Advantage to The Package

Success Rates of Package Assembled vs. Individual Items

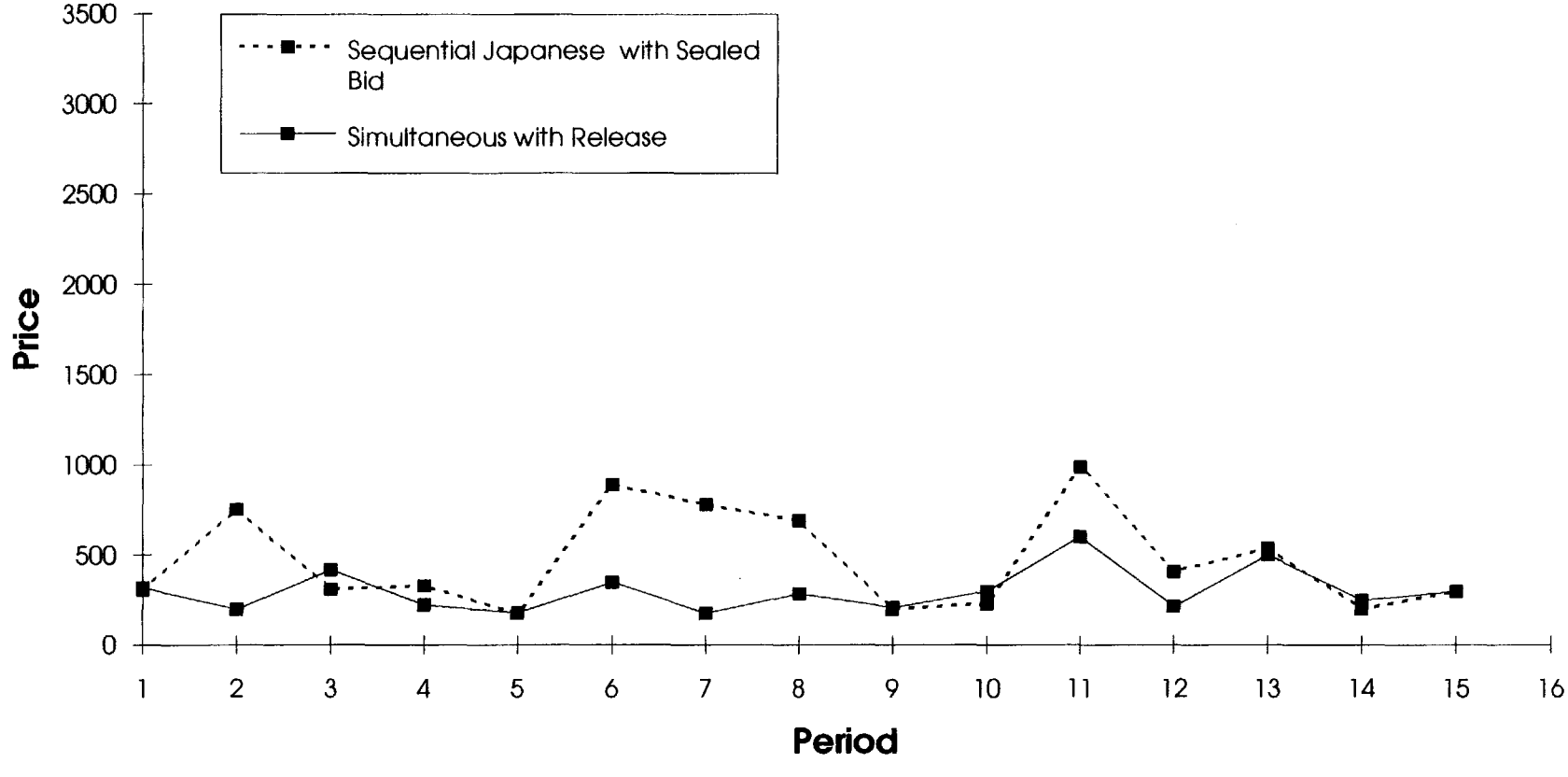
Pooled Data: Percentage of All Periods



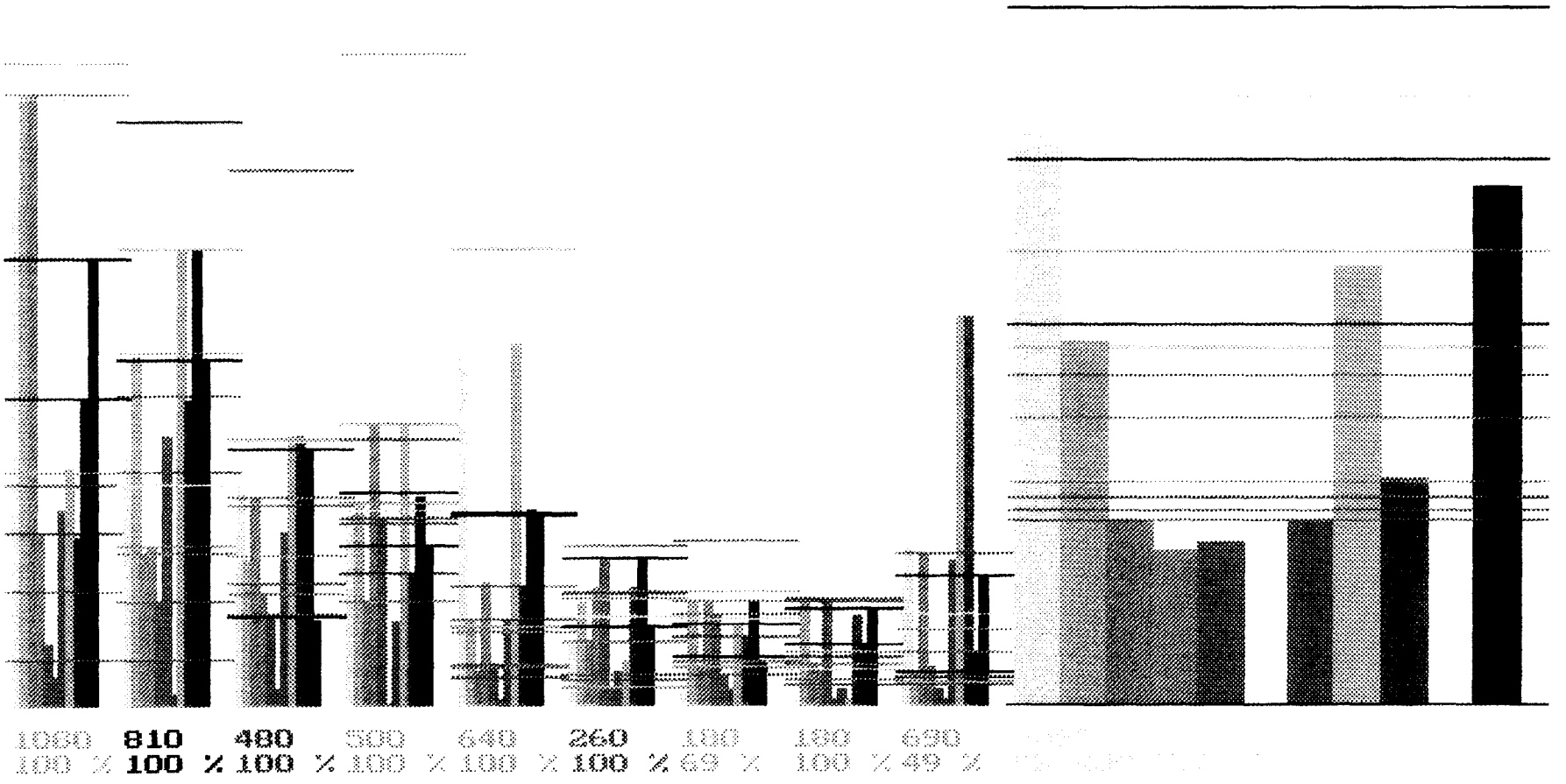
Price of First Items Auctioned:
Simultaneous Is Higher
(reflecting the high value of first units)



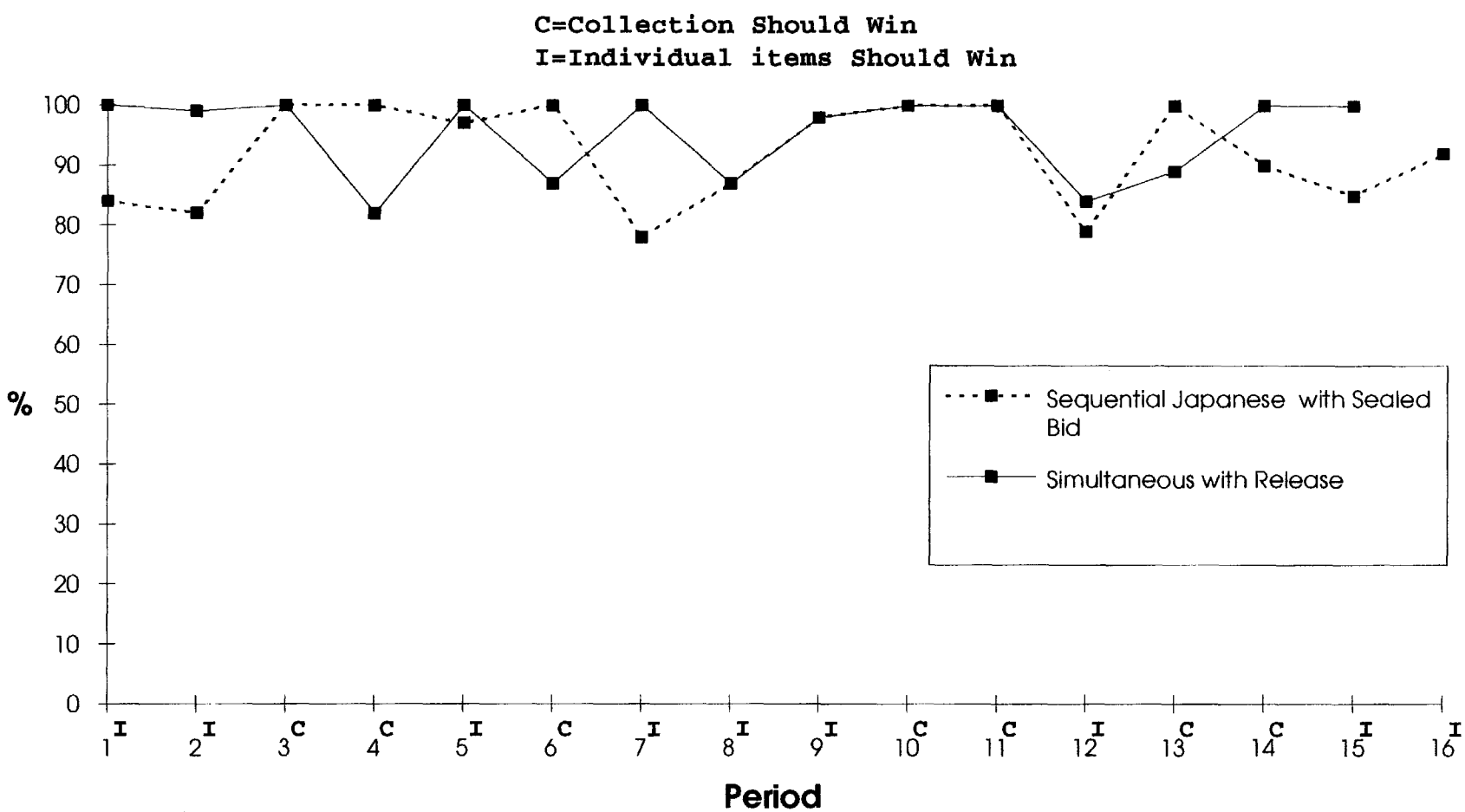
Price of the Final Items Auctioned:
Sequential Japanese Is Higher
(reflecting the pushing phenomena)

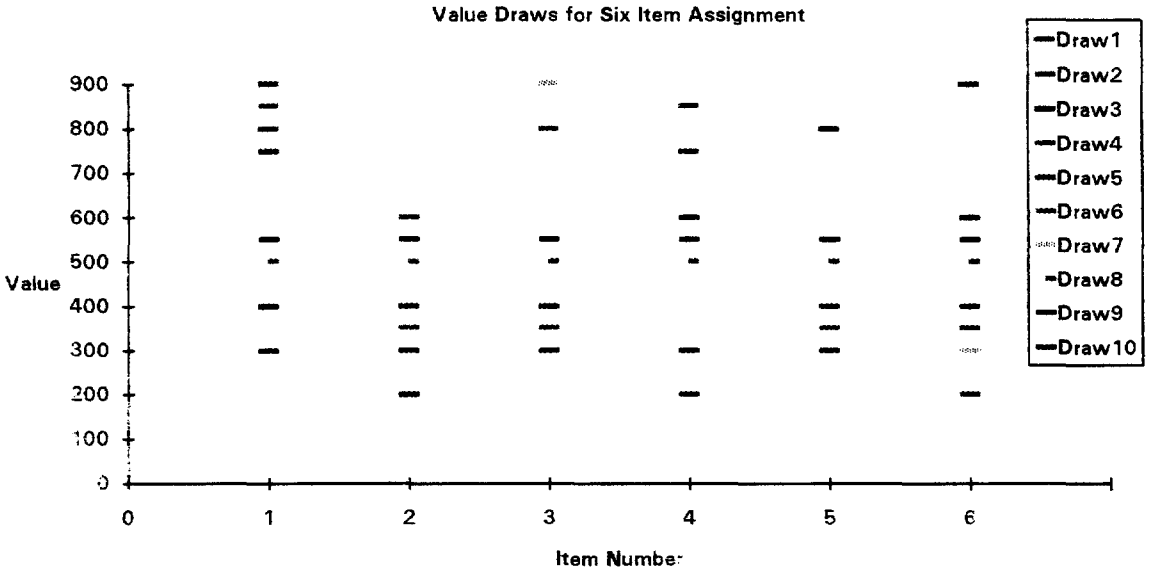


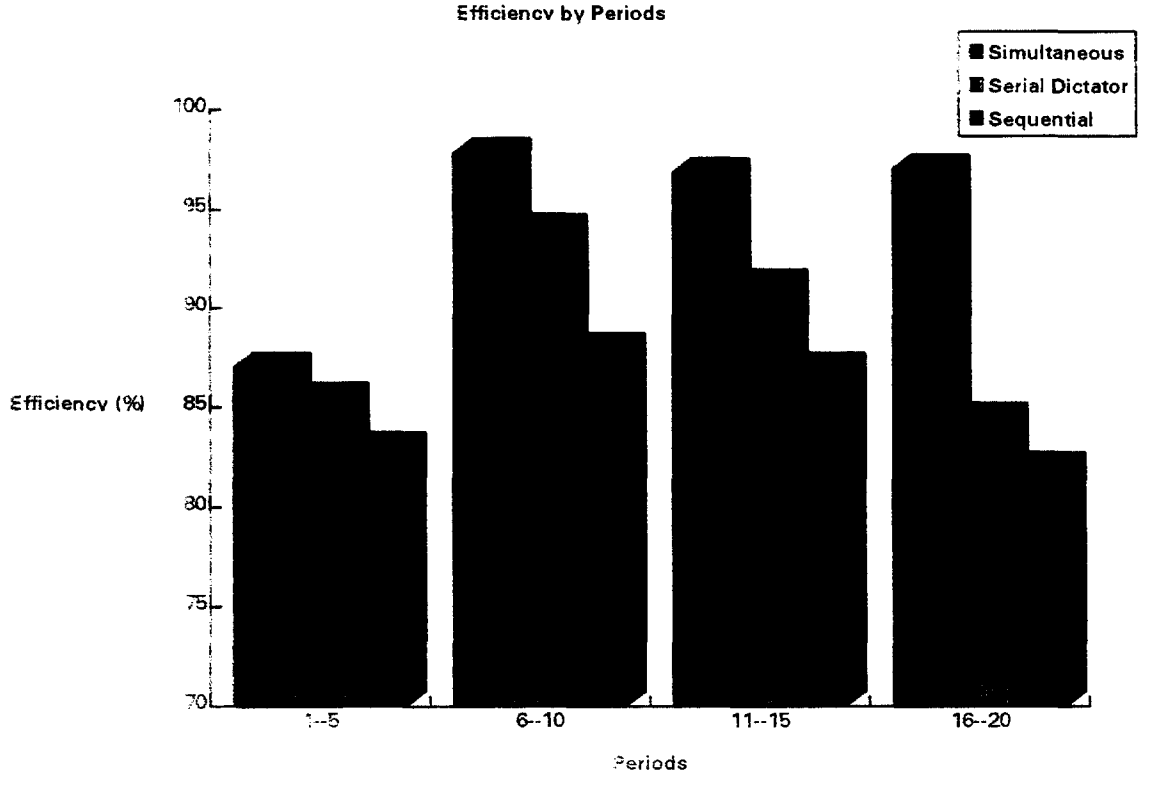
012494 p# 08 : sealed bid is for package ABCDEFGHI



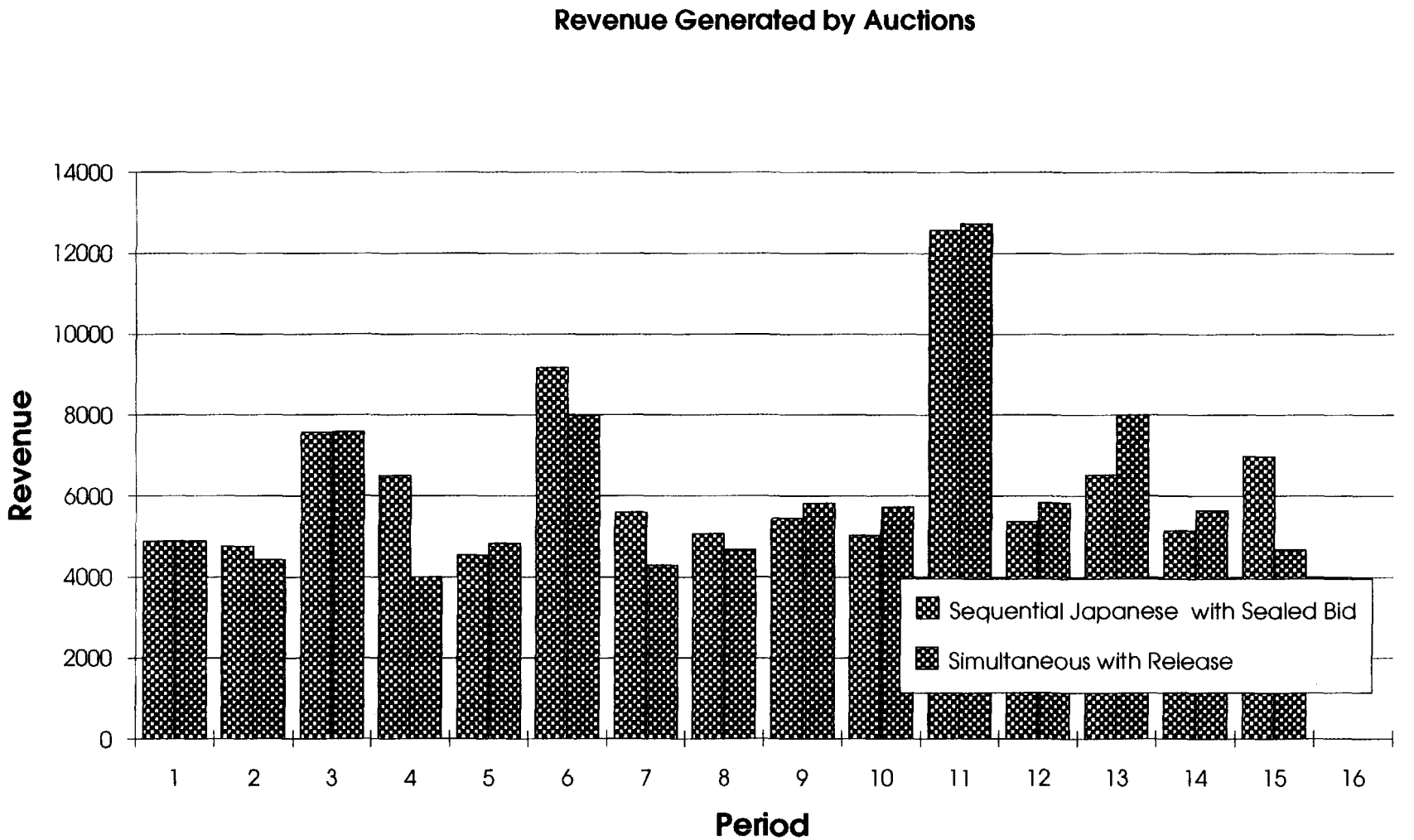
The Simultaneous Process Has an Efficiency Edge
<Efficiency by Period>







Source: Olson and Porter


Revenue Generated by Auctions
14000
12000
10000
8000
6000
4000
2000
0
Revenue
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Period
Sequential Japanese with Sealed Bid
Simultaneous with Release

SECONDARY MARKET TRANSACTIONS WILL FACILITATE GREATER EFFICIENCY.

PACIFIC BELL®
A Pacific Telesis Company

- Free markets help to correct license misallocations
  - Reshuffling ownership in response to changing market estimates, technical developments and business alliances increases value
  - The possibility of resale reduces auction risks and leads to higher prices

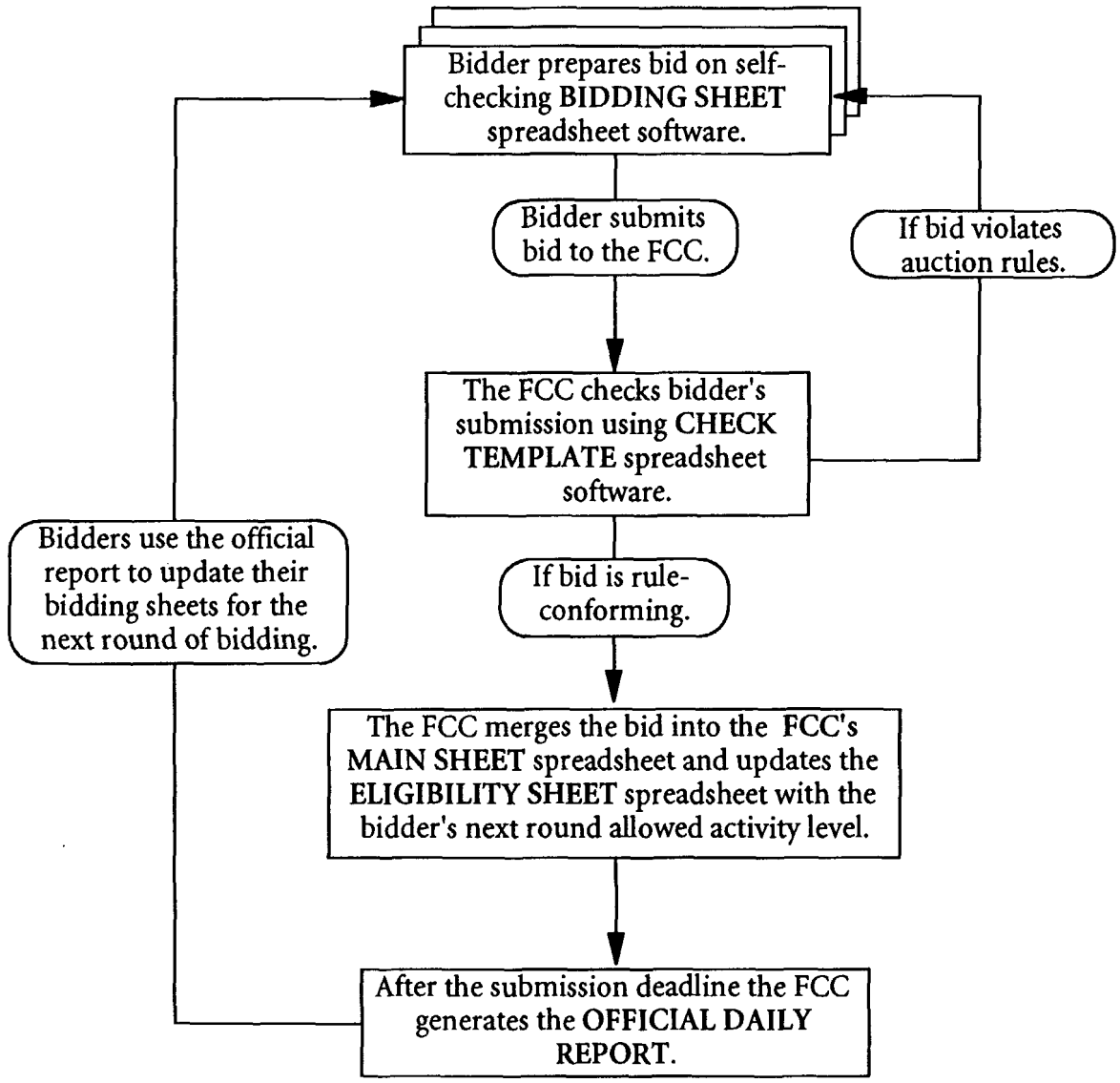
- The FCC should permit immediate resale of licenses following auctions or lotteries.

THE MILGROM-WILSON DESIGN INCLUDES A DETAILED PROPOSAL FOR IMPLEMENTATION.

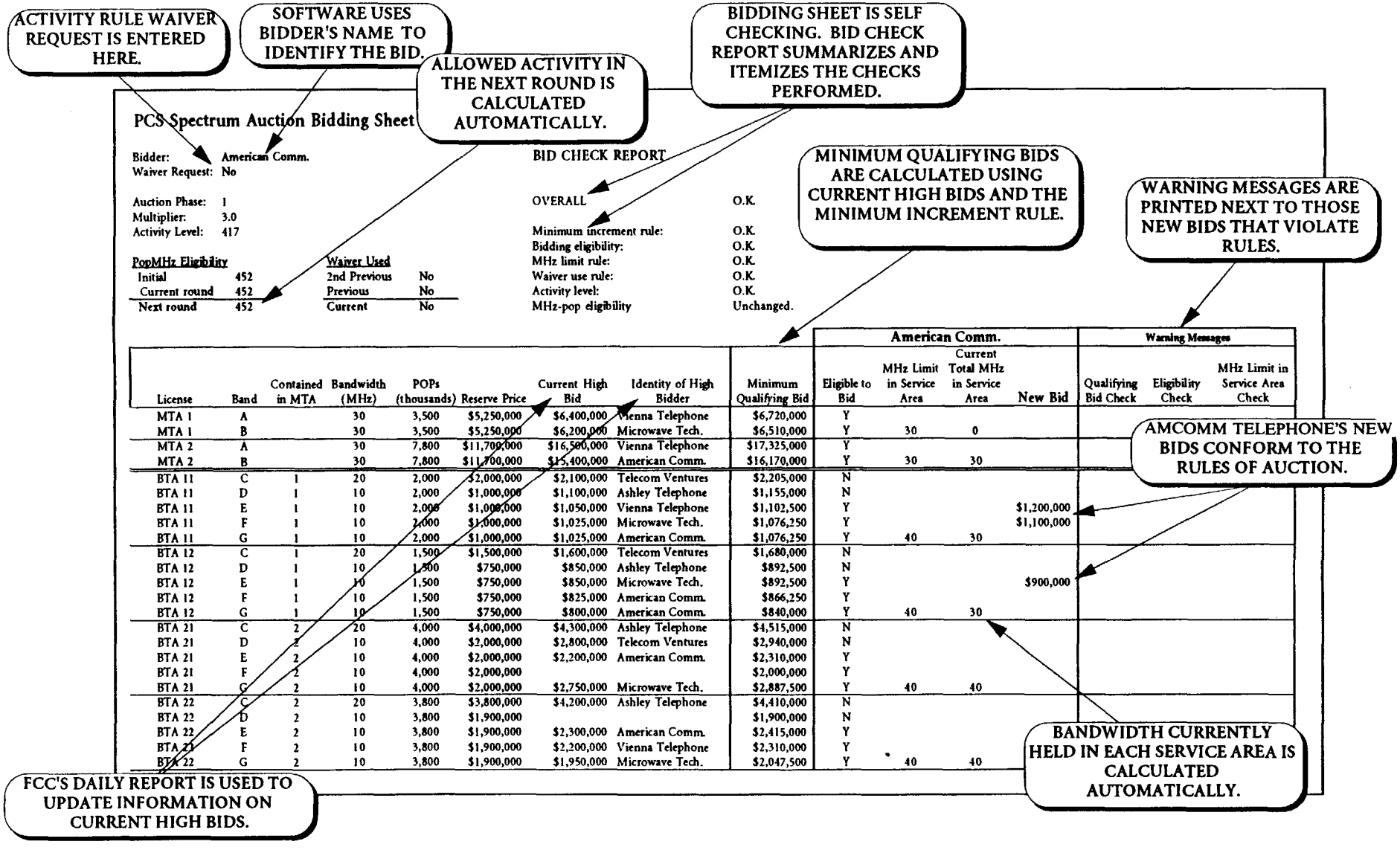
PACIFIC BELL®
A Pacific Telesis Company

- Electronic bidding spreadsheets is a practical means to conduct the auction
  - bidder spreadsheets are self-checking to verify conformance to rules
  - auctioneer spreadsheet is simple and adaptable
- Design is also implementable for remote bidding to reduce bidder costs
- Fail-safe waiver rules prevent losses due to bidder error
- Activity rules ensure orderly and prompt completion of the bidding

Overview of a Single Round of Bidding Using Spreadsheet Software



American Comm. Bidding Sheet



PCS Spectrum Auction Bidding Sheet

Bidder: American Comm.
Waiver Request: No

Auction Phase: 1
Multiplier: 3.0
Activity Level: 417

PopMHz Eligibility	
Initial	452
Current round	452
Next round	452

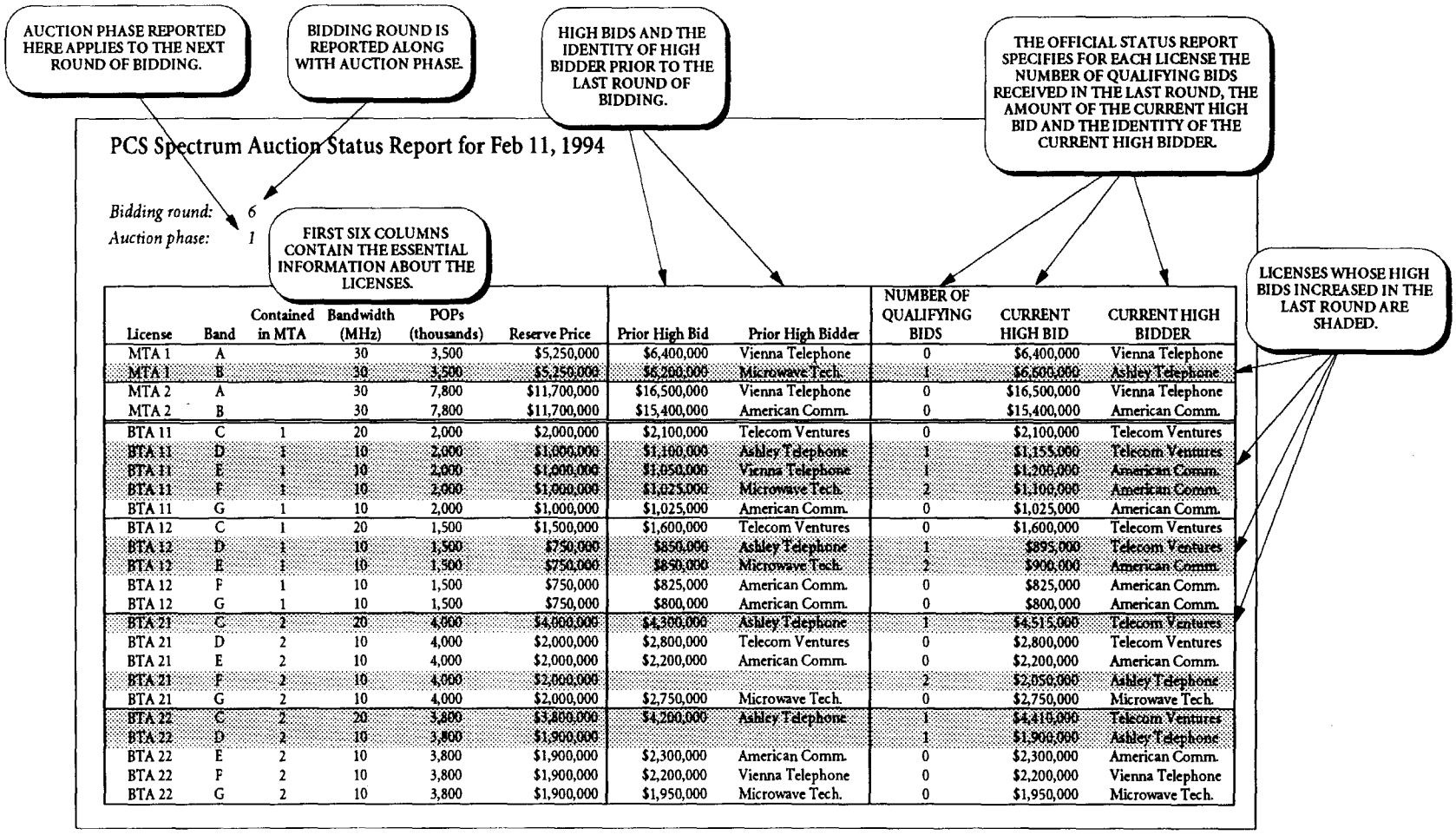
Waiver Used	
2nd Previous	No
Previous	No
Current	No

BID CHECK REPORT

OVERALL	O.K.
Minimum increment rule:	O.K.
Bidding eligibility:	O.K.
MHz limit rule:	O.K.
Waiver use rule:	O.K.
Activity level:	O.K.
MHz-pop eligibility	Unchanged.

									American Comm.				Warning Messages		
License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	Eligible to Bid	MHz Limit in Service Area	Current Total MHz in Service Area	New Bid	Qualifying Bid Check	Eligibility Check	MHz Limit in Service Area Check
MTA 1	A		30	3,500	$5,250,000	$6,400,000	Vienna Telephone	$6,720,000	Y						
MTA 1	B		30	3,500	$5,250,000	$6,200,000	Microwave Tech.	$6,510,000	Y	30	0				
MTA 2	A		30	7,800	$11,700,000	$16,500,000	Vienna Telephone	$17,325,000	Y						
MTA 2	B		30	7,800	$11,700,000	$15,400,000	American Comm.	$16,170,000	Y	30	30				
BTA 11	C	1	20	2,000	$2,000,000	$2,100,000	Telecom Ventures	$2,205,000	N						
BTA 11	D	1	10	2,000	$1,000,000	$1,100,000	Ashley Telephone	$1,155,000	N						
BTA 11	E	1	10	2,000	$1,000,000	$1,050,000	Vienna Telephone	$1,102,500	Y			$1,200,000			
BTA 11	F	1	10	2,000	$1,000,000	$1,025,000	Microwave Tech.	$1,076,250	Y			$1,100,000			
BTA 11	G	1	10	2,000	$1,000,000	$1,025,000	American Comm.	$1,076,250	Y	40	30				
BTA 12	C	1	20	1,500	$1,500,000	$1,600,000	Telecom Ventures	$1,680,000	N						
BTA 12	D	1	10	1,500	$750,000	$850,000	Ashley Telephone	$892,500	N						
BTA 12	E	1	10	1,500	$750,000	$850,000	Microwave Tech.	$892,500	Y			$900,000			
BTA 12	F	1	10	1,500	$750,000	$825,000	American Comm.	$866,250	Y						
BTA 12	G	1	10	1,500	$750,000	$800,000	American Comm.	$840,000	Y	40	30				
BTA 21	C	2	20	4,000	$4,000,000	$4,300,000	Ashley Telephone	$4,515,000	N						
BTA 21	D	2	10	4,000	$2,000,000	$2,800,000	Telecom Ventures	$2,940,000	N						
BTA 21	E	2	10	4,000	$2,000,000	$2,200,000	American Comm.	$2,310,000	Y						
BTA 21	F	2	10	4,000	$2,000,000			$2,000,000	Y						
BTA 21	G	2	10	4,000	$2,000,000	$2,750,000	Microwave Tech.	$2,887,500	Y	40	40				
BTA 22	C	2	20	3,800	$3,800,000	$4,200,000	Ashley Telephone	$4,410,000	N						
BTA 22	D	2	10	3,800	$1,900,000			$1,900,000	N						
BTA 22	E	2	10	3,800	$1,900,000	$2,300,000	American Comm.	$2,415,000	Y						
BTA 22	F	2	10	3,800	$1,900,000	$2,200,000	Vienna Telephone	$2,310,000	Y						
BTA 22	G	2	10	3,800	$1,900,000	$1,950,000	Microwave Tech.	$2,047,500	Y	40	40				

THE OFFICIAL DAILY REPORT

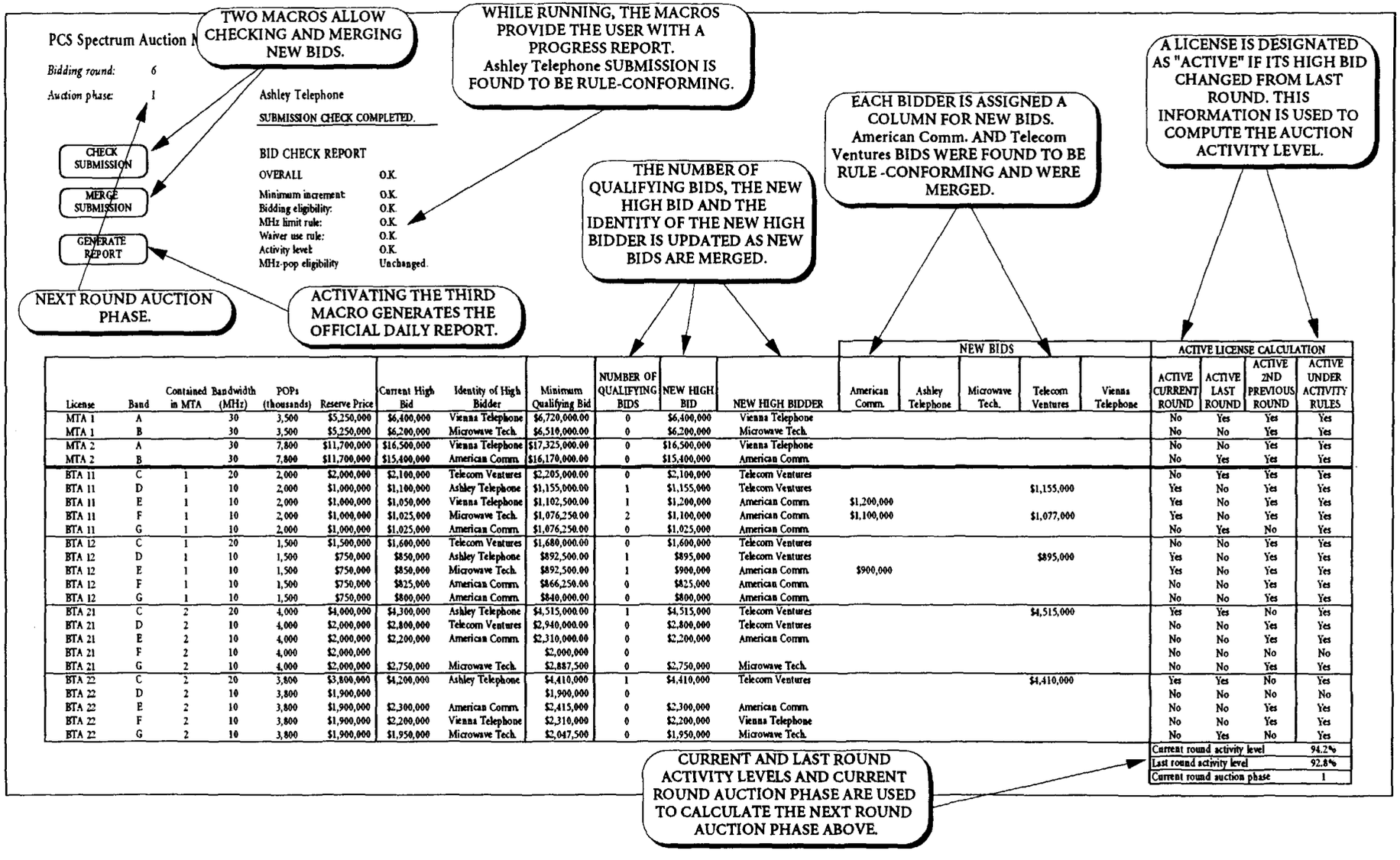


PCS Spectrum Auction Status Report for Feb 11, 1994

Bidding round: 6
Auction phase: 1

License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Prior High Bid	Prior High Bidder	NUMBER OF QUALIFYING BIDS	CURRENT HIGH BID	CURRENT HIGH BIDDER
MTA 1	A		30	3,500	$5,250,000	$6,400,000	Vienna Telephone	0	$6,400,000	Vienna Telephone
MTA 1	B		30	3,500	$5,250,000	$6,200,000	Microwave Tech.	1	$6,500,000	Ashley Telephone
MTA 2	A		30	7,800	$11,700,000	$16,500,000	Vienna Telephone	0	$16,500,000	Vienna Telephone
MTA 2	B		30	7,800	$11,700,000	$15,400,000	American Comm.	0	$15,400,000	American Comm.
BTA 11	C	1	20	2,000	$2,000,000	$2,100,000	Telecom Ventures	0	$2,100,000	Telecom Ventures
BTA 11	D	1	10	2,000	$1,000,000	$1,100,000	Ashley Telephone	1	$1,155,000	Telecom Ventures
BTA 11	E	1	10	2,000	$1,000,000	$1,050,000	Vienna Telephone	1	$1,200,000	American Comm.
BTA 11	F	1	10	2,000	$1,000,000	$1,025,000	Microwave Tech.	2	$1,100,000	American Comm.
BTA 11	G	1	10	2,000	$1,000,000	$1,025,000	American Comm.	0	$1,025,000	American Comm.
BTA 12	C	1	20	1,500	$1,500,000	$1,600,000	Telecom Ventures	0	$1,600,000	Telecom Ventures
BTA 12	D	1	10	1,500	$750,000	$850,000	Ashley Telephone	1	$895,000	Telecom Ventures
BTA 12	E	1	10	1,500	$750,000	$850,000	Microwave Tech.	2	$900,000	American Comm.
BTA 12	F	1	10	1,500	$750,000	$825,000	American Comm.	0	$825,000	American Comm.
BTA 12	G	1	10	1,500	$750,000	$800,000	American Comm.	0	$800,000	American Comm.
BTA 21	C	2	20	4,000	$4,000,000	$4,300,000	Ashley Telephone	1	$4,515,000	Telecom Ventures
BTA 21	D	2	10	4,000	$2,000,000	$2,800,000	Telecom Ventures	0	$2,800,000	Telecom Ventures
BTA 21	E	2	10	4,000	$2,000,000	$2,200,000	American Comm.	0	$2,200,000	American Comm.
BTA 21	F	2	10	4,000	$2,000,000			2	$2,050,000	Ashley Telephone
BTA 21	G	2	10	4,000	$2,000,000	$2,750,000	Microwave Tech.	0	$2,750,000	Microwave Tech.
BTA 22	C	2	20	3,800	$3,800,000	$4,200,000	Ashley Telephone	1	$4,410,000	Telecom Ventures
BTA 22	D	2	10	3,800	$1,900,000			1	$1,900,000	Ashley Telephone
BTA 22	E	2	10	3,800	$1,900,000	$2,300,000	American Comm.	0	$2,300,000	American Comm.
BTA 22	F	2	10	3,800	$1,900,000	$2,200,000	Vienna Telephone	0	$2,200,000	Vienna Telephone
BTA 22	G	2	10	3,800	$1,900,000	$1,950,000	Microwave Tech.	0	$1,950,000	Microwave Tech.

FCC's Main Sheet



											NEW BIDS					ACTIVE LICENSE CALCULATION			
License	Band	Contained in MTA	Bandwidth (MHz)	POPs (thousands)	Reserve Price	Current High Bid	Identity of High Bidder	Minimum Qualifying Bid	NUMBER OF QUALIFYING BIDS	NEW HIGH BID	NEW HIGH BIDDER	American Comm.	Ashley Telephone	Microwave Tech.	Telecom Ventures	Vienna Telephone	ACTIVE CURRENT ROUND	ACTIVE LAST ROUND	ACTIVE 2ND PREVIOUS ROUND	ACTIVE UNDER ACTIVITY RULES
MTA 1	A		30	3,500	$5,250,000	$6,400,000	Vienna Telephone	$6,720,000.00	0	$6,400,000	Vienna Telephone						No	Yes	Yes	Yes
MTA 1	B		30	3,500	$5,250,000	$6,200,000	Microwave Tech.	$6,510,000.00	0	$6,200,000	Microwave Tech.						No	No	Yes	Yes
MTA 2	A		30	7,800	$11,700,000	$16,500,000	Vienna Telephone	$17,325,000.00	0	$16,500,000	Vienna Telephone						No	No	Yes	Yes
MTA 2	B		30	7,800	$11,700,000	$15,400,000	American Comm.	$16,170,000.00	0	$15,400,000	American Comm.						No	Yes	Yes	Yes
BTA 11	C	1	20	2,000	$2,000,000	$2,100,000	Telecom Ventures	$2,205,000.00	0	$2,100,000	Telecom Ventures						No	Yes	Yes	Yes
BTA 11	D	1	10	2,000	$1,000,000	$1,100,000	Ashley Telephone	$1,155,000.00	1	$1,155,000	Telecom Ventures				$1,155,000		Yes	No	Yes	Yes
BTA 11	E	1	10	2,000	$1,000,000	$1,050,000	Vienna Telephone	$1,102,500.00	1	$1,200,000	American Comm.	$1,200,000					Yes	No	Yes	Yes
BTA 11	F	1	10	2,000	$1,000,000	$1,025,000	Microwave Tech.	$1,076,250.00	2	$1,100,000	American Comm.	$1,100,000			$1,077,000		Yes	No	Yes	Yes
BTA 11	G	1	10	2,000	$1,000,000	$1,025,000	American Comm.	$1,076,250.00	0	$1,025,000	American Comm.						No	Yes	No	Yes
BTA 12	C	1	20	1,500	$1,500,000	$1,600,000	Telecom Ventures	$1,680,000.00	0	$1,600,000	Telecom Ventures						No	No	Yes	Yes
BTA 12	D	1	10	1,500	$750,000	$850,000	Ashley Telephone	$892,500.00	1	$895,000	Telecom Ventures				$895,000		Yes	No	Yes	Yes
BTA 12	E	1	10	1,500	$750,000	$850,000	Microwave Tech.	$892,500.00	1	$900,000	American Comm.	$900,000					Yes	No	Yes	Yes
BTA 12	F	1	10	1,500	$750,000	$825,000	American Comm.	$866,250.00	0	$825,000	American Comm.						No	No	Yes	Yes
BTA 12	G	1	10	1,500	$750,000	$800,000	American Comm.	$840,000.00	0	$800,000	American Comm.						No	No	Yes	Yes
BTA 21	C	2	20	4,000	$4,000,000	$4,300,000	Ashley Telephone	$4,515,000.00	1	$4,515,000	Telecom Ventures				$4,515,000		Yes	Yes	No	Yes
BTA 21	D	2	10	4,000	$2,000,000	$2,800,000	Telecom Ventures	$2,940,000.00	0	$2,800,000	Telecom Ventures						No	No	Yes	Yes
BTA 21	E	2	10	4,000	$2,000,000	$2,200,000	American Comm.	$2,310,000.00	0	$2,200,000	American Comm.						No	No	Yes	Yes
BTA 21	F	2	10	4,000	$2,000,000			$2,000,000	0								No	No	No	No
BTA 21	G	2	10	4,000	$2,000,000	$2,750,000	Microwave Tech.	$2,887,500	0	$2,750,000	Microwave Tech.						No	No	Yes	Yes
BTA 22	C	2	20	3,800	$3,800,000	$4,200,000	Ashley Telephone	$4,410,000	1	$4,410,000	Telecom Ventures				$4,410,000		Yes	Yes	No	Yes
BTA 22	D	2	10	3,800	$1,900,000			$1,900,000	0								No	No	No	No
BTA 22	E	2	10	3,800	$1,900,000	$2,300,000	American Comm.	$2,415,000	0	$2,300,000	American Comm.						No	No	Yes	Yes
BTA 22	F	2	10	3,800	$1,900,000	$2,200,000	Vienna Telephone	$2,310,000	0	$2,200,000	Vienna Telephone						No	No	Yes	Yes
BTA 22	G	2	10	3,800	$1,900,000	$1,950,000	Microwave Tech.	$2,047,500	0	$1,950,000	Microwave Tech.						No	Yes	No	Yes
																	Current round activity level			94.2%
																	Last round activity level			92.8%
																	Current round auction phase			1